

## CLAIMS

What is claimed is:

1. A system for use in collecting data from a patient, comprising:
  - a blood glucose monitor for monitoring a blood glucose level and for producing digitally encoded blood glucose level signals representative of said blood glucose level;
  - a programmable microprocessor-based portable unit;
  - a digital data storage medium, the medium readable by said programmable micro-processor based unit; and
  - tangibly embodying therein a program of instructions executable by said programmable microprocessor-based portable unit, said program of instructions including instructions for signal processing in response to signals generated based upon said digitally encoded blood glucose signals and further for signal processing of insulin dosage data and detecting a need for a change in insulin dosage;
  - a signal interface connected in signal communication with said programmable microprocessor-based portable unit and said blood glucose monitor for coupling said digitally encoded blood glucose signals supplied by said blood glucose monitor to said programmable microprocessor-based portable unit; and
  - signal processing means connected in signal communication with said signal interface for performing signal processing functions in accordance with said program of instructions.
2. The system of claim 1, wherein said microprocessor-based portable unit is a palm-top computer.
3. The system of claim 1, the blood glucose monitor for receiving a test strip including a reagent impregnated portion having blood applied thereto.

4. The system of Claim 3, the program of instructions including instructions for monitoring whether a sufficient amount of blood has been applied to said reagent impregnated portion of the test strip.
5. The system of Claim 4, the program of instructions further including instructions for monitoring whether said test strip is properly inserted into the monitor.
6. The system of Claim 3, the program of instructions further including instructions for monitoring whether said test strip is properly inserted into the monitor.
7. The system of claim 3, the program of instructions further including instructions for performing a test sequence to confirm that the system is operating properly.
8. The system of claim 1, at least a component of said signal interface being connectable with a second device, other than said blood glucose monitor, in signal communication with said programmable microprocessor-based portable unit for coupling further signals supplied by said second device to said programmable microprocessor-based portable unit.
9. The system of claim 1, wherein said programmable microprocessor-based portable unit comprises an interactive interface, including:
  - a display for displaying information;
  - a plurality of switches operable for interactively controlling said microprocessor-based interactive portable unit and for manipulating said information displayed on said display; and
  - circuitry coupled to said plurality of switches for generating signals in response to said operation of said switches.
10. The system of claim 1, wherein said microprocessor-based interactive portable unit is a palm-top computer.

11. The system of claim 1, the blood glucose monitor for receiving a test strip including a reagent impregnated portion having blood applied thereto.

12. The system of Claim 11, the program of instructions including instructions for monitoring whether a sufficient amount of blood has been applied to said reagent impregnated portion of the test strip.

13. The system of Claim 12, the program of instructions further including instructions for monitoring whether said test strip is properly inserted into the monitor.

14. The system of Claim 11, the program of instructions further including instructions for monitoring whether said test strip is properly inserted into the monitor.

15. The system of claim 11, the program of instructions further including instructions for performing a test sequence to confirm that the system is operating properly.

16. The system of claim 9, at least a component of said signal interface being connectable with a second device, other than said blood glucose monitor, in signal communication with said programmable microprocessor-based interactive portable unit for coupling further signals supplied by said second device to said programmable microprocessor-based interactive portable unit.

17. A method of performing diabetes self-care with a system of integrated electronic devices, comprising:

powering a portable blood glucose monitor;

receiving an amount of blood sufficient for a blood glucose monitor to run a blood glucose test sequence;

controlling the blood glucose test sequence;

computing a blood glucose level;

signal coupling the blood glucose monitor to a portable microprocessor-based electronic device via a first data port;

transmitting blood glucose test results from said blood glucose monitor to said portable microprocessor-based device;

running program instructions stored in a memory of the portable microprocessor-based device for performing analysis of the blood glucose test results, signal processing of insulin dosage data, and detecting a need for a change in insulin dosage; and

recording blood glucose test results and insulin dosage information in a memory of the portable microprocessor-based device, said memory also containing programming for establishing a data protocol that allows digital data signal processing, and for performing said analysis of blood glucose.

18. The method of claim 17, the receiving including inserting a test strip into a receptacle of the blood glucose monitor; and applying a drop of blood to the strip.

19. The method of claim 17, further comprising displaying the blood glucose level on a display.

20. The method of claim 17, wherein said portable, microprocessor-based electronic device comprises a palm-top computer.

21. The method of claim 17, the receiving comprising receiving a test strip including a reagent impregnated portion having blood applied thereto.

22. The method of Claim 21, the controlling comprising monitoring whether a sufficient amount of blood has been applied to said reagent impregnated portion of the test strip.

23. The method of Claim 22, the controlling further comprising monitoring whether said test strip is properly inserted into the monitor.

24. The method of Claim 21, the controlling comprising monitoring whether said test strip is properly inserted into the monitor.

25. The method of claim 17, the controlling comprising performing a test sequence to confirm that the system is operating properly.

26. The method of claim 17, further comprising:

powering a second device;  
signal coupling the second device to said portable microprocessor-based electronic device; and  
transmitting signals from said second device to said portable microprocessor-based device.

27. The method of claim 17, wherein said portable microprocessor-based device comprises an interactive interface including a display screen and a plurality of switches including a pair of spaced-apart push button switches and another pair of switches, and the method further comprises interactively controlling said portable microprocessor-based device by manipulating said switches.